

REMARKS

As a preliminary matter, applicant notes that the examiner has not acknowledged a claim of priority under 35 USC § 119(e) in the office action summary, and requests that the examiner provide the acknowledgement in the next official action.

After entry of this amendment, claims 1-16, and 37-51 are pending in the application. In this response and amendment, claims 17-36 are cancelled, claims 3 and 14 are amended, and claims 28-42 are added.

In the office action dated March 14, 2003, the examiner requires affirmation of restriction made without traverse in a telephone interview on February 26, 2003, and states that the drawings submitted with the application are acceptable for examination purposes, but requires formal drawings upon allowance. Substantively, the examiner rejects claims 1-5 and 8-16 under 35 U.S.C. § 102(b) as being anticipated by Chou, et al., "A Unifying Framework for Version Control in a CAD Environment, Aug. 1998 ("Chou"), and rejects claims 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Chou.

Restriction

Applicant affirms the election made without traverse, by telephone interview on February 26, 2003, to prosecute the invention of Group I (claims 1-16). Accordingly, applicant requests the cancellation of claims 17-36 without prejudice.

Claim Rejections – 35 USC § 102(b)

The examiner rejects claims 1-5 and 8-16 under 35 U.S.C. § 102(b) as being anticipated by Chou, et al., "A Unifying Framework for Version Control in a CAD Environment, Aug. 1998 ("Chou"). Applicant respectfully traverses the examiner's rejection of claims 1-5 and 8-16 under 35 USC §102(b), as Chou does not disclose each and every

element of claims 1-5 and 8-16 of the present invention. For instance, Chou does not disclose or teach, among other things, a method for updating a version of an object having a property, where a start version field in a second data structure is set to a value representing a new version of the object, and an end version field in the second data structure is set to a value representing a most recent version of the object.

A claim is anticipated under 35 USC § 102(b) only if each and every element set forth in the claim is disclosed (i.e., identically described) in a single prior art reference. Regarding claims 1 and 8, the examiner cites page 340, col. 1, lines 16-21 as anticipating both of the following steps of claim 1:

setting a start version field in a second data structure to a value representing a new version of the object; and

setting an end version field in the second data structure to a value representing a most recent version of the object.

Page 340, col. 1, lines 16-21 of Chou states that:

the version of schema used for version V_i of a design object may be different from that used for version V_j derived from V_i . For example, after a designer creates a transient version by checking out a version he may modify the schema for the transient version. Then the original version and the transient version will use different schemas.

“Modifying the schema for the transient version,” so that “the original version and the transient version will use different schemas,” does not disclose or teach how the schema will be modified, thereby not teaching two specific modifications as recited in claim 1, where both a start version field and an end version field of a second data structure are set to new values, the start version field representing a new version of the object, and the end version field representing a most recent version of the object.

Further, the examiner cites page 340, col. 1, lines 30-32 of Chou as disclosing “setting an end version field in a first data structure to a value representing a predecessor version of the object.” However, page 340, col. 1, lines 30-32 states that “when a version of V is checked into the public or project databases, or when it is checked out, the version of schema for V must precede V, if the version of schema does not already reside in the database to which V is being sent.” This reference teaches no more than a requirement that the schema for V must be placed in a database to which V is being placed, this reference does not disclose modifying the schema for V, nor does it disclose how the schema would be modified, thereby certainly not disclosing a modification setting a specific version field in a first data structure to a value representing a predecessor version of the object. The distinctions discussed above are further recited in claims 37 and 43.

Claims 2-5 and 9-12 depend from claims 1 and 8, respectively, and are therefore not anticipated for the same reasons discussed above with respect to claims 1 and 8. In re Fine, 837 F.3d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

More particularly, regarding claims 2 and 9, the examiner states that “when a new reference to V is created, the name of the version that references V is appended to the inverted reference list of V” (page 342, col. 1, lines 10-13) as being readable as disclosing a further step of setting a property value field to the updated property value. However, in Chou, the inverted reference list does not include a property value field, and does not include data indicating a value of a property. The inverted reference list is used to support message-based notifications facilitating a scanning of databases containing versions with a matching event type, where event type indicates whether the version was created, deleted, or updated, with messages being sent to owners of the respective databases. Accordingly, there is

disclosed or taught no step of setting an updated property value.

Regarding claims 3 and 10, the examiner cites page 340, col. 1, lines 55-61 as disclosing having the value representing the most recent version of the object, in the end version field of the second data structure, be infinity. The examiner's citation, however, merely discusses specific situations that may require a change notification. There is no disclosure directed to how a version would be updated, or what values would be used to reflect the update, and definitely no disclosure describing or teaching having the value representing the most recent version of the object, in the end version field of the second data structure, be infinity.

Regarding claims 13 and 15, the examiner cites page 340, col. 2, lines 9-25 as disclosing a method for propagating a relationship of a predecessor object to a successor object, said relationship having an origin object and a destination object, where the method includes:

reading a propagation flag on the relationship; and
if the propagation flag is set then performing tasks including
determining if a new version of the destination object has been added;...

Claims 13 and 15 recite performing an explicit step of "reading a propagation flag." The examiner's citation specifically discloses otherwise, stating "in the flag-based approach, the system simply updates data structures that it maintains." The data structures maintained, as taught by Chou, are time-stamp fields determinative of reference consistency or inconsistency, thereby facilitating user notification. In Chou, there is no reading of a propagation flag, and there is no follow-up action, based upon a reading of the flag, where, if the flag is set, a determination is made whether a new version of the destination object has been added. Accordingly, Chou does not describe, teach, or suggest claims 13 and 15 of the

present invention. The distinctions discussed above are further recited in claims 44-51.

As claims 13 and 15 also recite certain limitations found in claims 1 and 8, applicant traverses the examiner's rejection of claims 13 and 15 for the reasons presented above directed to claims 1 and 8.

Claim Rejections – 35 USC § 103

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Chou, et al., "A Unifying Framework for Version Control in a CAD Environment, Aug. 1998 ("Chou"). The examiner states that, regarding claim 6, Chou does not explicitly indicate wherein the second and third field define a range of versions of an object identified by the first field having the property value in the fourth field. However, the examiner states, Chou implicitly indicates, at page 341, col. 2, lines 6-10, a default version number, a next version number, a version count and a set of version descriptors, one for each existing version on the version-derivation hierarchy of the object, which is readable as the above-noted portion of claim 6, and which thereby makes it obvious to modify the teachings of Chou to achieve the above-noted portion of claim 6 to thereby "allow the teachings of Chou to improve the accuracy and the reliability of the versions and workspaces in an object repository, and provide user to specify a particular version on the version derivation hierarchy" (Chou, page 339, col. 1, lines 62-63).

Applicant respectfully traverses the examiners rejection of claims 6 and 7 under 35 USC § 103(a), as applicant denies that a prima facie case of obviousness has been established. Applicant contends that the examiner's statement is conclusory without justification existing in Chou to substantiate a § 103 rejection.

The question raised under 35 U.S.C. § 103 is whether the reference(s) taken as a whole

would suggest the claimed invention taken as a whole to one of ordinary skill in the art. Accordingly, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the reference(s) why one of ordinary skill would have been prompted to modify the teachings of the reference(s) to arrive at the claimed invention. Therefore, some reason or suggestion must be found in the evidence of record that would have led one of ordinary skill in the art to produce the claimed invention in order to properly establish a prima facie case of obviousness.

Chou, at page 341, col. 2, lines 6-10, teaches that the default version number determines which existing version on the version-derivation hierarchy should be chosen when a partially specified reference is dynamically bound. The next-version number is the version number to be assigned to the next version of the object that will be created, and the version descriptors include control information for each version, such as version number of the version and the parent, change notification and approval timestamps, storage location, schema version numbers, and pointers.

This particular arrangement of data fields, defining a range of versions of an object identified by the first field having the property value in the fourth field, as recited in claim 6 and not disclosed in Chou, as acknowledged by the examiner in the office action, is significant, as it provides advantages that are not realized by the structure taught in Chou. For one example, the present invention provides that that objects and properties are only copied when absolutely necessary (i.e., when a property value in a particular object has changed). In lieu of copying objects, the property table maintains the range of versions for which the property value is the same. Further, propagation of relationships to a new version is controlled by the structure of claim 6. A flag on the relationship, in conjunction with information contained in the third

field, is used to determine whether or not the particular relationship should be copied. These features and advantages are further recited in claims 38-42.

Obviousness cannot be established by the prior art, to produce the claimed invention, without a suggestion or incentive in the art to support the production of the claimed invention. Accordingly, Chou does not suggest the invention of claim 6, and does not suggest the advantages or efficiencies accomplished, by the structure of claim 6, as claim 6 accomplishes more than providing a "user to specify a particular version on the version derivation hierarchy," as the examiner cites in Chou, at page 339, col. 1, lines 62-63.

Furthermore, when evaluating a claim for obviousness, all limitations of the claim must be evaluated. The examiner cannot ignore a material, claimed limitation that is absent from the reference. In the rejection of claim 6, the examiner fails to address a material, claimed limitation ("a second field comprising a start version identifier"). Further, the examiner associates the next version identifier of Chou with the end version identifier of the present invention. These identifiers are not identical, and serve different purposes. Regarding claim 7, the examiner cites page 339, col. 1, lines 19-21, for disclosing that the first field comprises an object identifier and a branch identifier. Applicant contends that the recitations of claim 7 are absent from this citation, which states "the database server also functions as the name server for the working versions in a project database, by providing one logical name server for each project database."

For the foregoing reasons, applicant contends that a prima facie case of obvious has not been established to substantiate a § 103 rejection, as Chou fails to show incentive, motivation, or suggestion for the present invention, and fails to disclose all elements of claims 6 and 7.

Claims Added by this Response and Amendment

Claims 37-51 are added by this Response and Amendment to more completely cover certain aspects of applicant's invention.

Claims 37 and 43, depending from claims 1 and 8, respectively, recite that the start version field and the end version field define a range of versions for which a value of the property of the object has the same value. The added recitation of claims 37 and 43 find support in portions of the specification including, but not limited to, page 5, lines 9-10, and page 24, lines 4-5. Claims 37 and 43 are patentable over the prior art because the prior art omits such an arrangement and function of data fields, as the examiner has acknowledged in the office action while addressing claim 6 under 35 USC § 103.

Claims 38-42, depending from claim 6, recite that objects and properties are only copied to the data structure when a property value of a respective object changes, and recite specific structure and function of the first field , and of the data structure as an object property table of an object repository. The added recitation of claims 38-42 find support in portions of the specification including, but not limited to, page 5, lines 6-7, and page 25, line 2 through page 26, line 2. Claims 38-42 are patentable over the prior art because the prior art omits such an arrangement and function of fields of the data structure.

Claims 44-47 and 48-51, depending from claims 13 and 15, respectively, recite that if the propagation flag is set, the relationship is not copied to the new version, and recite specific structure and function of the relationship table directed to the copying of relationships. The added recitation of claims 44-47 and 48-51 find support in portions of the specification including, but not limited to, page 5, lines 12-13, page 26, line 18 through page 27, line 3, and page 27, line 15 through page 28, line 12. Claims 44-47 and 48-51 are

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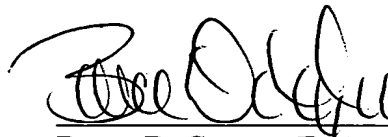
patentable over the prior art because the prior art omits such an arrangement and function of versioning of relationships.

CONCLUSION

In light of the above amendments and remarks, applicant submits that pending claims 1-16, and 37-51 are allowable and requests that examiner issue an early notice of allowance. The examiner is invited to call the undersigned attorney in the event that a telephone interview will advance prosecution of this application.

Date: _____

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